



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

ing that the position of the testes is not affected in any way by the formation of the sperm sac.

Tubifex.—Dixon ('15, Proc. and Trans. Liverpool Biological Society, L. M. B. C. Memoirs, No. XXIII, pp. 303-402) presents results of an extensive morphological study of *Tubifex*. The external anatomy and all of the principal internal systems are described in some detail, considerable attention being given to the reproductive organs. Among other things, the formation and transformation of the sex cells are described and two distinct kinds of spermatozoa are thought to have been demonstrated. A study of the parasites of *Tubifex* showed the presence of the following internal parasites: *Urospora sænuridis* (gregarine) and *Caryophyllæus* (cestode). *Opalina* and *Synactinomyxon tubificis*, reported by other workers in *Tubifex*, were not found. Certain fungi occur as external parasites, appearing, as a rule, in or near the setigerous sacs. *Vorticellæ* are frequently attached to the body-wall, but are not true parasites. A bibliography of seventy-one titles and seven plates accompany the paper.

PAUL S. WELCH.

Kansas State Agricultural College.

PARASITES IN THE MOUTH IN CASES OF PYORRHEA

Goodrich and Moseley (Jour. R. M. S., Dec. 1916) discuss the parasites that are found accompanying pyorrhea. They hold with Znamensky that pyorrhea always begins as an inflammation of the margin of the gums, followed by gradual recession of the gum. The tartar ridge at the margin of the gum is formed by the bacterial *Leptothrix* which, if not regularly and completely removed in the soft condition, becomes calcified and forms "hard" tartar. The authors believe that the tartar is deposited chiefly or wholly by *Leptothrix*, and note that excessive amount of tartar is an accompaniment of the disease.

They believe *Leptothrix* to be a pleomorphic organism appearing in coccoid, fusiform, and filamentous form under different circumstances. The plant is found in all recessions and pockets of the gums, in crypts of the tonsils, and may occur abundantly in the bronchial tubes.

Aside from *Leptothrix* the authors discuss *Entamæba gingivalis*, which a year or so ago was announced to be the cause of pyorrhea; *Trichomonas hominis*; and numerous bacteria, yeasts, and some spirochætes.

While not prepared to prove that any particular organism is the primary cause of pyorrhea, the writers are disposed to incriminate the *Leptothrix*.

Drew and Griffin (Jour. R. M. S., April 1917) by devising an improved technic have been able to present the best microscopic picture yet published of the parasites of the mouth in pyorrhea. They have studied systematically some 300 cases. The following are the outstanding results: (1) amebæ were found in every diseased mouth, tho their numbers bear no relation to the severity of the disease, and were never found in normal mouths; (2) the same microscopic population was found in all cases; (3) tartar is not always found in diseased mouths; (4) *Leptothrix* is invariably present; (5) *Trichomonas* was found in 10% of the cases; (6) immense numbers of spirochætes and treponemata, representing at least six species, are characteristic; (7) bacteria and streptococci are invariably present and often in immense numbers.

The authors do not feel ready to speak strongly about the clinical aspects of pyorrhea. They think that the amebæ have little to do in causing the disease. They suggest that mechanical injury plays an important part in the inception of the disease. When injury once occurs, it is believed that the spirochætes play the chief role in the disease by the destruction of tissue and the formation of pockets. The ameboid cells are thought to destroy the red cells, and the bacteria to form toxins. The authors claim that arsenic preparation, such as atoxyl and salvarsan are of value in treatment, that emetin is worthless, and that vaccine treatment is helpful.

The technic is as follows:

The material is removed from the pockets in the gums by a Pasteur pipette whose fine extremity is drawn out to capillary thickness. A centimeter of this is left on the pipette and turned at right angles to it. A little 0.5% saline solution is allowed to enter this fine extremity. This is then used as a probe in the pockets, whence the infected material is drawn into the salt solution.

For permanent mounts, a drop or two of this material well mixed in the solution, is spread over a perfectly clean cover glass. Then,—

- (1). Drop film side down in Schaudinn's fluid for fixation.
- (2). One half hour in each,—30, 50, 70, 80% alcohol to absolute.
- (3). Pass back thru these grades, one half hour in each, to distilled water.
- (4). Place for 10 or 12 hours or more in 2% iron-alum solution.
- (5). Stain in 1% hæmatoxylin for 24 hours.
- (6). Differentiate by immersing in 2% iron-alum, watching the decolorization under the microscope until the nuclei are sharply differentiated.
- (7). Wash, pass thru grades of alcohol,—15 minutes in each,—and clear in xylol. Mount in balsam.

FACTORS INFLUENCING THE SPORANGIAL CHARACTERS OF MYCETOZOA

A. E. Hilton (Jour. Q. M. C., Nov. 1916) gives a very suggestive analysis of the factors whose interplay produces the interesting variety we see in the sporangia of Myxomycetes. In some detail he shows how surface tension, gravity, lateral compression, capillarity, desiccation, internal precipitation of solids,—and all the conditions which modify any of these,—operate to produce the variety of depressed, globular, cylindrical forms of these plants, with or without stalks. It is a very good illustration of an intelligent effort to show how "simple combinations of well known forces produce complicated results."

PROTOPLASMIC CONTINUITY IN EARLY EMBRYONIC DEVELOPMENT

Cameron and Gladstone (Jour. Anat. Physiol. Vol. 50: p. 207) advance the view that the blastoderm of early animal embryos does not show the cell demarcations which we habitually assume. On the contrary the cytoplasm surrounding the nuclei is continuous, and the nuclei themselves should be looked upon as the units. They